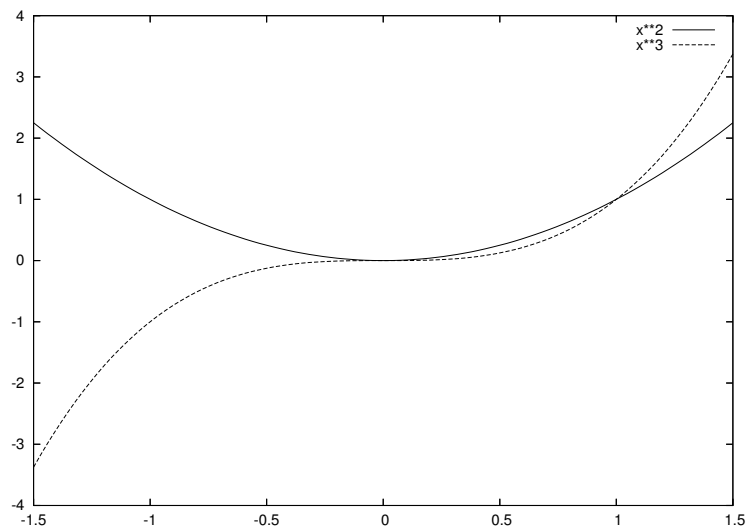


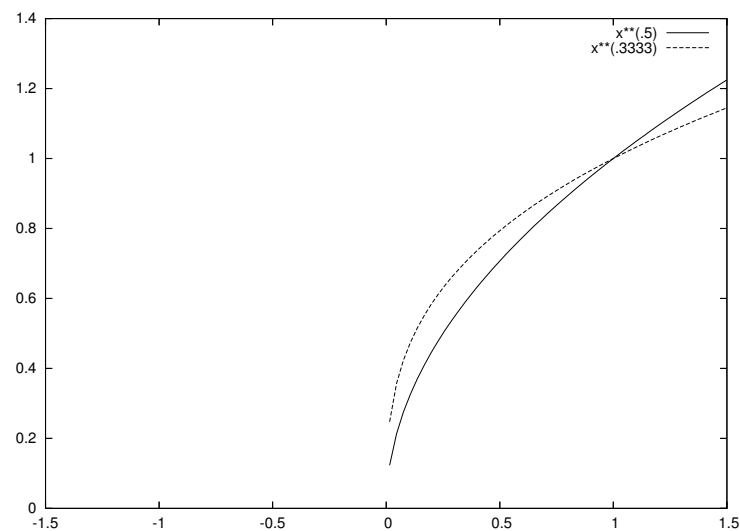
Name \_\_\_\_\_ Student Number \_\_\_\_\_

All solutions are to be presented on the paper in the space provided. The quiz is open book. You can discuss the problem with others and ask the TA questions.

- (1) Sketch the following graphs. Use the same axis for each part. That is, part (a) on one axis, part (b) on a different axis etc. Label at least one obvious point on the graph.
- (a)  $f(x) = x^2$  and  $f(x) = x^3$

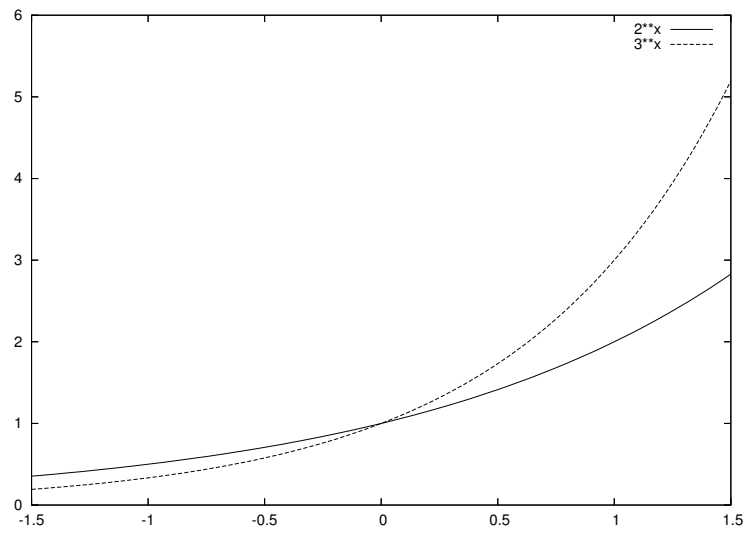


- (b)  $f(x) = \sqrt{x}$  and  $f(x) = \sqrt[3]{x}$

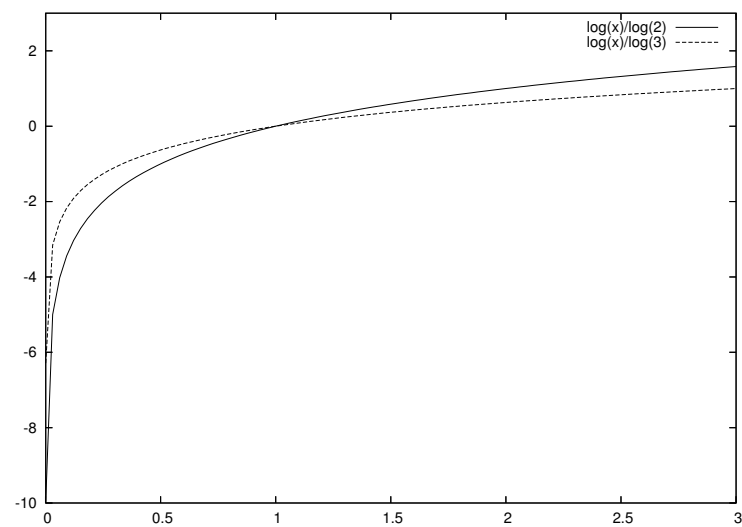


Over→

(c)  $f(x) = 2^x$  and  $f(x) = 3^x$

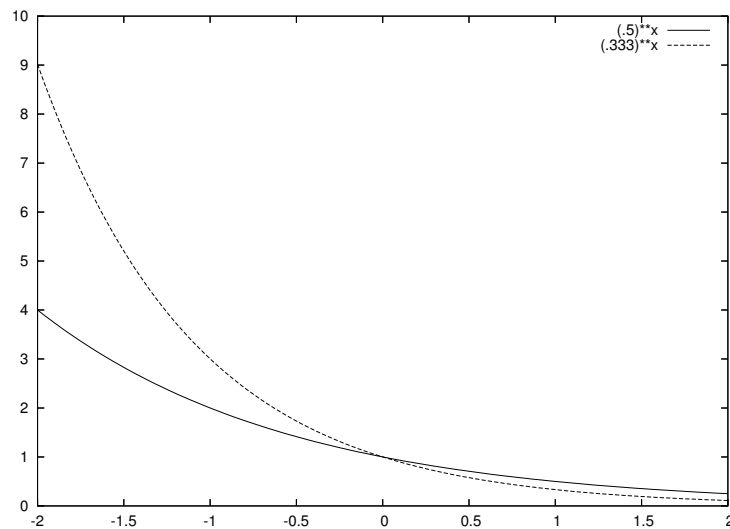


(d)  $f(x) = \log_2 x$  and  $f(x) = \log_3 x$



Over→

(e)  $f(x) = \left(\frac{1}{2}\right)^x$  and  $f(x) = \left(\frac{1}{3}\right)^x$



- (2) Solve the following equations. Clearly use the appropriate inverse function.

(a)  $2^{x^2-1} = 4$

$$2^{x^2-1} = 4$$

$$\log_2 2^{x^2-1} = \log_2 4$$

$$x^2 - 1 = 2$$

$$x^2 = 3$$

$$x = \pm\sqrt{3}$$

(b)  $\log_3(x+1) = 2$

$$\log_3(x+1) = 2$$

$$3^{\log_3(x+1)} = 3^2$$

$$x+1 = 9$$

$$x = 8$$